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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/531,081
Filing Date: October 31, 2005
Appellant(s): BERTHOU ET AL.

Kenneth M. Berner, Reg. No. 37,093
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 08/22/2008 appealing from the Office action mailed 11/23/2007.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,867,711	Langner et al.	03-2005
6,057,786	Briffe et al.	05-2000
6,281,810	Factor	08-2001

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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3. **Claims 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,867,711 (Langner et al.) in view of US Patent No. 6,057,786 (Briffe et al.) and US Patent No. 6,281,810 (Factor).

Regarding claims 1, 4, 5, 7, 8, 11, 12, 13, 14 and 15, Langner discloses a cockpit instrument system wherein a **multifunction display (MFD)** is a customizable **flight data display integrated with controls** to control display formats, communication devices, navigational devices, and equipment sensors (Column 3, lines 35-41). The display may include data for airspeed, altitude, attitude, **horizon**, and heading (Column 7, lines 19-23 and Column 8, lines 5-13). The controls may include **autopilot controls** (Column 6, lines 5-8). Additionally, **more than one MFD with a display and one or more controls may be used side by side** (Column 4, lines 44-50, Column 13, lines 52-67, Column 14, lines 1-5, and Fig. 3).

Langner does not expressly disclose:

- a main display system for horizon and piloting parameters separate from the automatic pilot control equipment and standby display equipment
- automatic pilot control equipment and standby display equipment each have two operating modes, one of the modes being an integrated standby data display mode and the other being a mode of displaying the automatic pilot set points given by the pilot, wherein each operate in a different mode in normal operating conditions

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Briffe discloses an apparatus for aircraft display wherein a **primary flight display** is separate from a heads up display that contains standby instruments intended for back-up to the primary flight display (Abstract, Column 4, lines 7-14, and Fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a backup system to a primary system when problems occur, wherein flight data is displayed and the pilot can control the aircraft.

Factor discloses redundant system for critical flight instruments wherein **two screens are configurable to display separate data** (Abstract) and wherein a toggle or control logic in the computer **can be used to reverse the two displays or even to replace two instruments with each other** (Column 5, lines 40-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to switch between displays or controls in the event of a failure of one of them.

Regarding claim 2, Factor discloses redundant system for critical flight instruments wherein **two screens are configurable to display separate data** (Abstract) and wherein control logic in the computer **can be used to reverse the two displays or even to replace two instruments with each other** (Column 5, lines 40-53). Examiner considers that the controls for the current display or instrument would be the only active controls and if the instruments were reversed, the controlling ability would be transferred to the other screen. It would have been obvious to one of ordinary skill in the art at the time the invention was made to activate only the current controls on the screen and to

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deactivate them if the control screen is reversed to the other display so that only one person has control at one time.

Regarding claims 3 and 10, Langner further discloses that the MFD's are employed **in connection with** a primary flight display (PFD) or a navigation display (NAV).

Examiner considers that "in connection with" means that the MFD can transmit control set points to the PFD or NAV. Examiner further considers "processing these signals without displaying the set points" is an obvious design choice, and that since MFD's are customizable, that the second MFD can be set to not display the set point adjustments.

Regarding claim 9, Factor discloses redundant system for critical flight instruments wherein **two screens are configurable to display separate data** (Abstract) and wherein a toggle or control logic in the computer **can be used to reverse the two displays or even to replace two instruments with each other** (Column 5, lines 40-53). Examiner considers that such a toggle would cause an inversion signal to be sent to the other display to notify and switch the systems.

Langner, Briffe, and Factor are analogous art because they are from the same field of endeavor as aircraft instrumentation systems.

(10) Response to Argument

Appellant appears to be only arguing the rejection of independent claim 1 and that "*none of Langner, Briffe, or Factor teach the standby display equipment as set forth in claim 1*". Examiner finds this argument unpersuasive. Furthermore, Appellant appears to be arguing that no one reference teaches all the claimed limitations. Examiner has acknowledged this and has provided a 103 rejection combining Langner, Briffe, and Factor to show that all the claimed limitations, when combined with each other, would have been obvious to one of ordinary skill in the art.

First, as disclosed in the rejection above, Langner discloses a cockpit instrument system wherein a **multifunction display (MFD)** is a customizable **flight data display integrated with controls** to control display formats, communication devices, navigational devices, and equipment sensors (Column 3, lines 35-41). The display may include data for airspeed, altitude, attitude, **horizon**, and heading (Column 7, lines 19-23 and Column 8, lines 5-13). The controls may include **autopilot controls** (Column 6, lines 5-8). Additionally, **more than one MFD with a display and one or more controls may be used side by side** (Column 4, lines 44-50, Column 13, lines 52-67, Column 14, lines 1-5, and Fig. 3).

With the above reference of Langner, Examiner is trying to show that Langner teaches a system wherein two flight data displays, each integrated with controls, such as autopilot controls, can be utilized side-by-side. Furthermore, since Langner teaches that more than one MFD with a display and one or more controls may be utilized side-

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by-side, Examiner considers that it would be obvious to implement these two with identical hardware and software so that they are consistent with each other for maintenance and training purposes. **Therefore, the concept of having two displays with controls which are identical in hardware and software, side-by-side is not novel.**

Furthermore, Examiner acknowledges that Langner does not expressly disclose:

- a separate main display system for horizon and piloting parameters separate from the automatic pilot control equipment and standby display equipment
- automatic pilot control equipment and standby display equipment each have two operating modes, one of the modes being an integrated standby data display mode and the other being a mode of displaying the automatic pilot set points given by the pilot, wherein each operate in a different mode in normal operating conditions

Next, Examiner cites Briffe. Briffe discloses an apparatus for aircraft display wherein a **primary flight display** is separate from a heads up display that contains standby instruments intended for back-up to the primary flight display (Abstract, Column 4, lines 7-14, and Fig. 1). As discussed above, Langner teaches displays may include data for airspeed, altitude, attitude, **horizon**, and heading. Therefore, it would be obvious for a primary flight display to have horizon and piloting parameters for the pilot to carry out a safe flight.

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Furthermore, as admitted by Appellant, standby displays separate from a primary flight display are not novel in the prior art, and thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a backup system to a primary system when problems occur, wherein flight data is displayed and the pilot can control the aircraft.

Examiner is trying to show with Briffe that the combination of a primary flight display separate from a standby display is not novel. Furthermore, by combining Briffe with Langner, Examiner is trying to show that it would be obvious to have the combination of a primary flight display, as shown in Briffe, but also have standby display, as shown in Briffe, which is modified with the technology in Langner, to have two separate displays, one a standby display, as taught in Briffe, and one containing autopilot controls, as taught by Langner, which can be utilized side-by-side.

Finally, Examiner cites Factor. Factor discloses a redundant system for critical flight instruments wherein **two screens are configurable to display separate data** (Abstract) and wherein a toggle or control logic in the computer **can be used to reverse the two displays or even to replace two instruments with each other** (Column 5, lines 40-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to switch between displays or controls in the event of a failure of one of them.

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With Factor, Examiner is trying to show that the concept of two displays with instruments that can be swapped or reversed is not novel in the prior art. By combining Factor with Briffe and Langner, Examiner is trying to show that it would be obvious to implement Factor with the side-by-side displays of Langner so that the displays can be switched, such as in the event of a failure of one of the displays. Appellant argues that Factor teaches only one screen wherein displays can be swapped within the screen and not two separate screens as taught in claim 1. However, Examiner believes that one of ordinary skill in the art at the time the invention was made would find it obvious to separate multiple displays on one screen into two separate screens, if it suited the design and space available in the cockpit. Furthermore, one of ordinary skill in the art would easily know how to separate one screen with separate displays into two separate screens, as taught in Langner.

Appellant's argument that "*it is submitted that a proper case of prima facie obviousness must be based on what is actually disclosed not what is not disclosed*" is unpersuasive. Examiner believes she has explicitly pointed out each and every claimed element as taught in claim 1 and how there combination is obvious, as discussed above.

Finally, with the above rejection of claim 1, Examiner is trying to point out that all these displays and functions are not novel in the prior art and Examiner further

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believes that the combination of these is obvious to one of ordinary skill in the art, as discussed above. For example, primary flight displays, auto pilot equipment and displays, and standby displays are all known in the prior art and furthermore, having separate displays for each of these is known in the prior art, as taught above.

Therefore, as discussed above, the invention of claim 1 is an obvious variation of utilizing known displays in the prior art.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Kerri L McNally/

Examiner, Art Unit 2612

Conferees:

/Jeff Hofsass/
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